REMARKS

Summary of the Office Action & Formalities

Claims 1-15 are all the claims pending in the application. Attached is an Appendix listing the pending claims for the Examiner's convenience.

The prior art rejections are summarized as follows:

1. Claims 1, 2, 6, and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roe et al.

2. Claims 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okazato et al. in view of Wada et al.

Claims 3-5, 7-9, and 14 are allowed.

Applicant traverses the prior art rejections.

Claim Rejections - 35 U.S.C. § 103

1. Claims 1, 2, 6, And 10-12 In View Of Roe et al.

In rejecting claims 1, 2, 6, and 10-12 under 35 U.S.C. 103(a) as being unpatentable over Roe et al, the Examiner restates his earlier position:

> Roe et al. discloses a telecommunications or power cable that is structurally reinforced by incorporating armoring having one layer of wires (15) wherein the layer of wires includes steel wires (claims 1 &6) and does not carry electricity.
>
> Roe et al. does not disclose each of the steel wires being covered in a layer of stainless steel (claims 1, 2, 6 & 10). Matsushima et al. discloses a composite wire compromising a

> stainless steel-coated steel wire in which a core steel of a standard type covered in a layer of stainless steel that defines a continuous layer of uniform, thickness, density and composition and which has excellent corrosion resistance and strength. It would have been obvious to one skilled in eh art to use stainless-coated steel wire as taught by Matsushima et al. for the steel wires (15) of Roe et al. since the wire taught by Matsushima et al. has excellent corrosion resistance and strength.

Office Action at page 2.

In the Amendment of August 1, 2003, Applicant traversed the Examiner's rejection, noting that claims 1 and 6 recite a telecommunications or power transport cable having a composite steel wire with a core steel and covered in a layer of stainless steel that defines a continuous layer of uniform thickness, density, and composition. Matsushima et al., on the other hand, discloses a stainless steel-coated steel wire in which stainless steel tape is wound around the wire in helical manner and welded along the butted edges of the tape. This process clearly results in a composite structure that does not have a uniform thickness, density, and composition as recited in claims 1 and 6.

The Examiner responds to Applicant's traversal as follows:

> Applicant argues that Matsushima et al. discloses a stainless-coated steel wire in which stainless steel tape is wound around the wire in a helical manner and welded along the butted edges of the tape. This process results in a composite structure that does not have a uniform thickness, density and composition. This argument is not found persuasive. Matsushima et al. discloses the stainless steel layer being formed by winding a stainless steel tape around the steel wire. However, the tape is wound around the steel wire with the adjacent turns being abutted, therefore the stainless steel layer would have a uniform thickness. Matsushita et al. also discloses the coated steel wire being passed through a wire drawing machine, accordingly the stainless-coated steel would have a uniform thickness density, and composition stainless steel layer.

Office Action at page 4. Applicant respectfully disagrees.

The Examiner's rationale is technically incorrect. Even if one assumes that the adjacent turns are abutted, welded, and then drawn so as to approximate a continuous with surface with uniform thickness, one skilled in the art would still readily recognize the finished structure to have weld joints that result in a non-uniform density and composition. Indeed, it is well recognized in the art of welding that weld joints are stronger than the base metals being joined. The heating of the metal at the joint and the high pressure or addition of a filler metal necessarily alter the structure at the joint so as to be substantially different from the base metals.

In view of these fundamental differences between the claimed subject matter and the Examiner's modification to the cable of Roe et al., the Examiner is kindly requested to reconsider and withdraw the rejection of claims 1, 2, 6, and 10-12.

2. Claims 13 And 15 In View Of Okazato et al. And Wada et al.

In rejecting claims 13 and 15 under 35 U.S.C. 103(a) as being unpatentable over Okazato et al. in view of Wada et al., the Examiner states:

> Okazato et al. discloses a telecommunications cable that is structurally reinforced with armoring, the armoring being a tube (1) that forms a concentric layer of the cable, the tube having a steel core. Okazato et al. does not disclose the tube having a layer of stainless steel covering the steel core. Wada et al. discloses a composite product compromising steel as a base material and stainless steel as a cladding material. It would have been obvious to one skilled in the art to modify the steel tube of Okazato et al. by covering (or cladding) the steel core with a layer of stainless steel as taught by Wada et al.

Office Action at page 3.

Applicant last argued that the present invention is in the field of mechanical reinforcement for cabling. Wada et al., on the other hand, merely discloses the manufacture of stainless steel cladded plate, and is far too generic (i.e., too broad) to have suggested the alleged

modification to the cable of Okazato et al. Stated otherwise, Wada et al. would not have commended itself to one skilled in the art of cable reinforcement. Indeed, as Applicant has noted in earlier Amendments, mechanical reinforcement or armoring of cabling is in the form of strands of wires that provide tensile support for the cabling. The manufacture, composition and assembly of this reinforcement, as well as its performance, are unique to cabling.

Moreover, the motivational rationale set forth in the grounds of rejection--to provide the tube with a good corrosion resistance--are not even present in the applied art. Wada et al. discloses improved corrosion resistance and toughness of plates by using stainless steel. The Examiner has not pointed to any teaching or suggestion to form the plates into tubular members for use in cabling. Absent such disclosure, the reference cannot reasonably be relied upon to argue that one skilled in the art would have been motivated to significantly modify the cable structure of Okazato et al. as alleged.

Moreover, Okazato et al. discloses that the pipe 1 may be made with a single metal or metal alloy. See Okazato et al. at column 4, lines 31-36. The reference makes no disclosure of any inadequacies involving strength or corrosion of the disclosed choices.

In response to these arguments, the Examiner states:

> In response to applicant's argument that the present invention is in the field of mechanical reinforcement for cabling, Wada et al., on the other hand, discloses a manufacture of stainless steel cladded plates, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Wada et al. is used only to support the position of coating a steel

> core with a stainless steel layer to provide a composite structure having an improved corrosion resistance.

Office Action at pages 4-5. Applicants disagree.

The Examiner's rationale behind the rejection completely ignores the relevant facts that weigh against the alleged finding of obviousness. It is a highly relevant fact that Wada et al. is directed to plate cladding and is entirely silent about tube armoring for cabling. One skilled in the art would not have known to combine the teachings of the two applied references in the first place, given their disparate applications. Only after improperly relying on Applicant's disclosure as a road map does the Examiner attempt to piece together Applicant's invention using such disparate references. To allege that Wada et al. supports the position of coating a tubular steel core with a stainless steel layer goes far beyond the actual disclosure of this reference and is, thus, an asserted teaching or suggestion that has no basis in the applied art. The Examiner is strongly cautioned from impermissibly using hindsight to reconstruct the claimed invention from prior art with the invention before him, rather than viewing the invention from the position of a person of ordinary skill at the time it was made .

With respect to the Examiner's position that "Okazato et al. does discloses a telecommunications cable that is structurally reinforced with armoring which is a tube (a steel core tube)" (Office Action at page 5), the Applicant has stated that Okazato et al. discloses a metal pipe 1. However, as noted above, Okazato et al. discloses that the pipe 1 may be made with a single metal or metal alloy, but makes no disclosure of any inadequacies involving strength or corrosion of the disclosed choices. Again, this fact weighs against a finding of any disclosed motivation to modify the pipe 1 in view of Wada et al. to have the claimed composite structure.

The Examiner is reminded of the rigorous standard to which the USPTO is held when trying to show that an invention would have been obvious in view of the combination of two or more references. See, In Lee, USPQ2d 1430, 1433 (Fed. Cir. 2002), citing, e.g., In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references."). Applicant submits that this standard has not been met in the present rejection.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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WASHINGTON OFFICE
23373
CUSTOMER NUMBER

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APPENDIX

LISTING OF CLAIMS FOR THE EXAMINER'S CONVENIENCE:

1. (previously presented): A telecommunications or power transport cable that is structurally reinforced by incorporating armoring having one or more layers of wires, wherein said one or more layers of wires includes a composite steel wire having a core steel of a standard type, and covered in a layer of stainless steel that defines a continuous layer of uniform thickness, density, and composition, and wherein said one or more layers of wires do not carry electricity.

2. (previously presented): A telecommunications or power transport cable according to claim 1, in which at least one layer of wires from said one or more layers of wires is constituted by composite steel wire.

3. (previously presented): A telecommunications or power transport cable that is structurally reinforced by incorporating armoring having one or more layers of wires, wherein said one or layers of wires includes a composite steel wire having a core steel of a standard type, and covered in a layer of stainless steel, and wherein said one or more layers of wires do not carry electricity; and

wherein said armoring includes at least one wire from said one or more layers of wires that is made of composite steel wire being made from a tube of stainless steel filled with ground

steel particles that are compressed under high pressure within said tube, then placed in a furnace, heated, and drawn to a desired section.

4. (previously presented): A telecommunications or power transport cable that is structurally reinforced by incorporating armoring having one or more layers of wires, wherein said one or layers of wires includes a composite steel wire having a core steel of a standard type, and covered in a layer of stainless steel, and wherein said one or more layers of wires do not carry electricity; and

wherein a tube that forms a concentric layer of said cable is provided, wherein said tube is obtained from a sheet made of composite steel having a steel core of a standard type covered in a layer of stainless steel.

5. (previously presented): A telecommunications or power transport cable according to claim 4, in which said tube that forms a concentric layer of said cable is made of composite steel made from a tube of stainless steel filled with ground steel particles that are compressed under high pressure within said tube, then placed in a furnace, heated and drawn to a desired section.

6. (previously presented): A telecommunications or power transport cable that is structurally reinforced by incorporating at least one reinforcing wire that is made of composite steel wire having a core of steel of a standard type, and covered in a layer of stainless steel that

defines a continuous layer of uniform thickness, density, and composition, and wherein said reinforcing wire does not carry electricity.

7. (previously presented): A telecommunications or power transport cable that is structurally reinforced by incorporating at least one reinforcing wire that is made of composite steel wire having a core of steel of a standard type, and covered in a layer of stainless steel, and wherein said reinforcing wire does not carry electricity; and

wherein said reinforcing wire is made of composite steel wire being made from a tube of stainless steel filled with ground steel particles that are compressed under high pressure within said tube, then placed in a furnace, heated, and drawn to a desired section.

8. (previously presented): A telecommunications or power transport cable that is structurally reinforced by incorporating at least one reinforcing wire that is made of composite steel wire having a core of steel of a standard type, and covered in a layer of stainless steel, and wherein said reinforcing wire does not carry electricity; the telecommunications or power transport cable further comprising a tube that forms a concentric layer of said cable, wherein said tube is obtained from a sheet made of composite steel having a steel core of a standard type covered in a layer of stainless steel.

9. (previously presented): The telecommunications or power transport cable according to claim 8, in which said tube that forms a concentric layer of said cable is made of composite steel

made from a tube of stainless steel filled with ground steel particles that are compressed under high pressure within said tube, then placed in a furnace, heated, and drawn to a desired section.

10. (previously presented): The telecommunications or power transport cable according to claim 6, further comprising a plurality of reinforcing wires including said at least one reinforcing wire, each made of composite steel wire having a core of steel of a standard type, and covered in a layer of stainless steel, said plurality of reinforcing wires forming an armoring layer of said cable.

11. (previously presented): The telecommunications or power transport cable according to claim 1, wherein said layer of stainless steel of said composite steel wire in said armoring directly contacts the core of steel of said composite steel wire so as to form a two layered structure.

12. (previously presented): The telecommunications or power transport cable according to claim 6, wherein said layer of stainless steel of said one reinforcing wire directly contacts the core of steel of said one reinforcing wire so as to form a two layered structure.

13. (previously presented): A telecommunications or power transport cable that is structurally reinforced with armoring, the armoring being a tube that forms a concentric layer of

the cable, the tube obtained from composite steel having a steel core covered in a layer of stainless steel.

14. (previously presented): A telecommunications or power transport cable that is structurally reinforced with armoring, the armoring being a tube that forms a concentric layer of the cable, the tube obtained from composite steel having a steel core covered in a layer of stainless steel; and

wherein the tube is made of composite steel made from a tube of stainless steel filled with ground steel particles that are compressed under high pressure within the tube, then placed in a furnace, heated, and drawn to a desired section.

15. (previously presented): The telecommunications or power transport cable according to claim 13, wherein the steel core directly contacts the layer of stainless steel.